

## ABSTRACT

The invention relates to the field of automated welding, and more particularly, to an automated, gas metal arc welding apparatus for externally welding abutting sections of pipe. The apparatus has a motorized main carriage for travelling circumferentially about one of the pipe sections to be welded. The apparatus is provided with a welding torch  
5 which is connected to the main carriage. The welding torch is movable relative to the main carriage by the actuation of a multi-axis drive mechanism. The multi-axis drive mechanism has a horizontal transport mechanism for linearly translating the torch transversely of the weld seam, a vertical transport mechanism for vertically displacing the torch transversely of the weld seam and an angular transport mechanism for pivotally  
10 moving the torch transversely of the weld seam. A controller is provided for actuating the various transport mechanisms individually or simultaneously if desired.